Introducing The Minnesota Multiphasic Personality Inventory-Adolescent-Restructured Form (MMPI-A-RF)

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Abstract

This paper presents information on the development and structure of the MMPI-A-RF, a 241-item self-report inventory designed to evaluate adolescent psychopathology in clinical, forensic, educational, and medical settings. The MMPI-A-RF as a revision of the MMPI-A, which is the most popular test of adolescent psychopathology in the United States. The MMPI-A-RF is scheduled to be released in the first half of 2016 by the University of Minnesota Press, and distributed by Pearson Assessment.

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Development Of The Mmpi-A-Rf

Various forms of the Minnesota Multiphasic Personality Inventory (MMPI) have been used to evaluate adolescent psychopathology for over seven decades. The original form of the MMPI, while primarily developed for use with adults, was also widely used with adolescents from its original publication in 1942 until the publication of the MMPI-A in 1992. The Minnesota Multiphasic Personality Inventory - Adolescent (MMPI-A) is an instrument which is heavily interrelated to both the original form of the MMPI, as well as to the MMPI-2. The MMPI-A rapidly became the most widely used objective personality assessment instrument with adolescents in research, clinical, and forensic settings. The development of the MMPI-A represented the first time in the history of this instrument that a specialized set of adolescent norms was created, and that a specific test form was developed by the test publisher for the assessment of adolescents. The creation of the Minnesota Multiphasic Personality Inventory-Adolescent-Restructured Form (MMPI-A-RF) was heavily influenced by the theoretical underpinnings and methodological approach used in developing the MMPI-2-RF. The MMPI-A-RF is a 241-item self-report instrument which was

derived from the 478 items of the MMPI-A. The MMPI-A-RF is not a simple revision of the MMPI-A, but is an innovative instrument that shares many of the features of the MMPI-A, but represents a new test instrument.

The Minnesota Multiphasic Personality Inventory-Adolescent-Restructured Form (MMPI-A-RF) development project began in late 2007 with the goal of exploring the potential for developing an adolescent instrument modeled after the Minnesota Multiphasic Personality Inventory-2-Restructured Form (MMPI-2-RF) for adults. Committee members included Robert Archer and Richard Handel at the Eastern Virginia Medical School, Yossi Ben-Porath at Kent State University, and Auke Tellegen of the University of Minnesota. The initial responsibility of the committee was to advise the University of Minnesota Press concerning the feasibility of creating an adolescent form of the MMPI-2-RF, using the MMPI-2-RF as the template to inform the development of the adolescent instrument.

The development samples used for the construction of the MMPI-A-RF scales were initially based on a sample of 11,093 boys and 7,238 girls from a variety of settings including inpatient and outpatient psychiatric settings, correctional, drug and alcohol treatment, general medical, and school settings. Because of the relatively small number of participants in the drug/alcohol treatment and general medical settings, these latter samples were eventually removed from any further analyses. Additionally, a variety of exclusion criteria were applied, which included the following:

1) Age restricted to adolescents between 14 through 18, inclusive;
2) MMPI-A Cannot Say scores less than 30;
3) *MMPI-A VRIN*, *TRIN*, *L*, and *K* scale scores less than 80;
4) MMPI-A *F* scale score less than 90.

Applying these inclusion criteria, the final developmental sample consisted of 15,128 adolescents including 9,286 boys and 5,842 girls. The mean age for these samples which were derived from outpatient, inpatient, correctional and school settings was 15.61. In order to evaluate the influence of age and gender on scale construction, samples were further subdivided by age and gender, creating four developmental samples used in scale development. These four samples were: 1) younger boys (14 to 15); 2) older boys (16 to 18); 3) younger girls (14 to 15), and 4) older girls (16 to 18).

Once the decision was made to develop the MMPI-A-RF, the first step in developing the test was to identify a measure of demoralization, a major factor contributing to the high intercorrelation between the MMPI-A Basic Clinical scales. This led to the development of the Demoralization (RCd) scale. Three broad scales of psychopathology, the Higher-Order (H-O) scales, were also developed for the MMPI-A based on principal component analyses of the MMPI-A Basic Clinical scales. Additional

analyses were also conducted to identify major distinctive components for each of the MMPI-A Basic Clinical scales, which could be differentiated from the demoralization factor. This process essentially led to the development of the Restructured Clinical (RC) scales for the MMPI-A-RF. The next step was to develop additional substantive scales to cover other content areas available in the MMPI-A item pool that were not directly addressed by the RC scales. The MMPI-2-RF Specific Problems scales served as the initial template for scale development, but were also augmented by scales uniquely developed for the MMPI-A-RF to address adolescent problem areas. In developing the MMPI-A-RF Specific Problems scales, procedures similar to those used to develop the MMPI-A-RF RC scales were followed by the test developers. Specifically, each of the MMPI-2-RF Specific Problems scales was examined to evaluate the extent to which corresponding MMPI-A items were available within the MMPI-A item pool. There was also a group of 58 items unique to the MMPI-A item pool which are not found on the MMPI-2-RF, for example those items uniquely found in the MMPI-A Content scales. After deriving a preliminary set of Specific Problems scales for the MMPI-A-RF, each scale was subjected to factor analyses to reduce the extent to which Specific Problems scales were strongly associated with the demoralization factor dimension. The remaining seed or core scales were further refined by dropping candidate items that appeared to be too highly correlated with other SP scales. Finally, we correlated each of the candidate SP scales with all remaining items from the 478-item pool of the MMPI-A. In this final stage, items with relevant content were added to a scale if they sufficiently correlated with that scale and showed a pattern of lower correlations with other SP scales. As with the MMPI-2-RF, the process of deriving a final set of Specific Problems scales included numerous analyses of different subsets of items conducted in various age and gender subsamples.

Finally, a revised set of Personality Psychopathology-Five (PSY-5) scales was developed for the MMPI-A-RF by John McNulty and Alan Harkness based on their five-factor personality model. Harkness, McNulty, and Ben-Porath (1995) originally created a set of PSY-5 scales for the MMPI-2, and McNulty, Harkness, Ben-Porath, and Williams (1997) developed PSY-5 scales for the MMPI-A. McNulty and Harkness developed the MMPI-A-RF PSY-5 scales using a similar methodology to that employed for the MMPI-2 and MMPI-A. Items were selected on a rational basis, and internal consistency and external criteria analyses were conducted based on samples divided into developmental and validation studies. A cycle of internal analyses was conducted in four large databases, separately by gender.

The development process used to create the MMPI-A-RF resulted in 48 scales (six validity scales and 42 substantive scales). These 48 scales are shown in Table 1.

TABLE 1 *MMPI-A-RF Scale and Descriptions*

The MMPI-A-RF Scales
Validity Scales
VRIN-r (Variable Response Inconsistency) Random responding
TRIN-r (True Response Inconsistency) Fixed responding
CRIN (Combined Response Inconsistency) – Combination of fixed and random inconsistent responding
F-r (Infrequent Responses) Responses infrequent in the general population
L-r (Uncommon Virtues) Rarely claimed moral attributes or activities
K-r (Adjustment Validity) Uncommonly high level of psychological adjustments
Higher-Order (H-O) Scales
EID (Emotional/Internalizing Dysfunction) Problems associated with mood and affect
THD (Thought Dysfunction) Problems associated with disordered thinking
BXD (Behavioral/Externalizing Dysfunction) Problems associated with under-controlled behavior
Restructured Clinical (RC) Scales
RCd (Demoralization) General unhappiness and dissatisfaction
RC1 (Somatic Complaints) Diffuse physical health complaints
RC2 (Low Positive Emotions) A distinctive, core vulnerability factor in depression
RC3 (Cynicism) Non-self-referential beliefs that others are bad and not to be trusted
RC4 (Antisocial Behavior) Rule-breaking and irresponsible behavior
RC6 (Ideas of Persecution) Self-referential beliefs that others pose a threat
RC7 (Dysfunctional Negative Emotions) Maladaptive anxiety, anger, and irritability
RC8 (Aberrant Experiences) Unusual perceptions or thoughts associated with psychosis
RC9 (Hypomanic Activation) Over-activation, aggression, impulsivity, and grandiosity
Specific Problems (SP) Scales
Somatic/Cognitive Scales
MLS (Malaise) Overall sense of physical debilitation, poor health
GIC (Gastrointestinal Complaints) Nausea, recurring upset stomach, and poor appetite
HPC (Head Pain Complaints) Head and neck pain
NUC (Neurological Complaints) Dizziness, weakness, paralysis, and loss of balance
COG (Cognitive Complaints) Memory problems, difficulties concentrating
Internalizing Scales
HLP (Helplessness/Hopelessness) Belief that goals cannot be reached or problems solved
SFD (Self-Doubt) Lack of self-confidence, feelings of uselessness
NFC (Inefficacy) Belief that one is indecisive and inefficacious
OCS (Obsessions/Compulsions) Varied obsessional and compulsive behaviors
STW (Stress/Worry) Preoccupation with disappointments, difficulty with time pressure
AXY (Anxiety) Pervasive anxiety, frights, frequent nightmares
ANP (Anger Proneness) Easily angered, impatient with others
BRF (Behavior-Restricting Fears) Fears that significantly inhibit normal behavior
SPF (Specific Fears) Multiple specific fears
Externalizing Scales
NSA (Negative School Attitudes) Negative attitudes and beliefs about school
ASA (Antisocial Attitudes) Various antisocial beliefs and attitudes

CNP (Conduct Problems) Difficulties at school and at home, stealing
SUB (Substance Abuse) Current and past misuse of alcohol and drugs
NPI (Negative Peer Influence) Affiliation with negative peer group
AGG (Aggression) Physically aggressive, violent behavior
Interpersonal Scales
FML (Family Problems) Conflictual family relationships
IPP (Interpersonal Passivity) Being unassertive and submissive
SAV (Social Avoidance) Avoiding or not enjoying social events
SHY (Shyness) Feeling uncomfortable and anxious around others
DSF (Disaffiliativeness) Disliking people and being around them
Personality Psychopathology Five (PSY-5) Scales
AGGR-r (Aggressiveness-Revised) Instrumental, goal-directed aggression
PSYC-r (Psychoticism-Revised) Disconnection from reality
DISC-r (Disconstraint-Revised) Under-controlled behavior
NEGE-r (Negative Emotionality/Neuroticism-Revised) Anxiety, insecurity, worry and fear
INTR-r (Introversion/Low Positive Emotionality-Revised) Social disengagement and anhedonia

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MMPI-A-RF scale names excerpted from the MMPI-A-RF Administration, Scoring, Interpretation, and Technical Manual by Archer, Handel, Ben-Porath, and Tellegen.

The 48 MMPI-A-RF scales, similar to the MMPI-2-RF, have a three-tiered hierarchical structure that includes three Higher-Order (H-O) broad-base scales at the top of the hierarchy, nine Restructured Clinical (RC) scales at the midlevel, and 25 Specific Problems (SP) scales at the lowest level, as well as five PSY-5 scales. While the Higher-Order scales, RC scales, and many of the Specific Problems scales are identical in name to their counterparts on the MMPI-2-RF, it is important to note that the item composition of these scales differs, often significantly, from their MMPI-2-RF counterparts. The MMPI-A-RF also contains a set of six Validity scales which include three scales of response consistency, one scale measuring over-reporting symptomatology, and two scales devoted to evaluating the extent to which an adolescent may have underreported their experience of psychiatric symptomatology

The MMPI-A-RF Specific Problems scales are organized into five Somatic/Cognitive scales, related to elevations on Somatic Complaints (*RC1),* and nine Internalizing scales measuring aspects or facets of demoralization (*RCd*) and Dysfunctional Negative Emotions (*RC7*). There are also six Externalizing scales which measure facets of Antisocial Behavior (*RC4*) and Hypomanic Activation (*RC9*). It should be noted that three of the six Externalizing scales (Negative School Attitudes, Conduct Problems, and

Negative Peer Influence) are unique to the MMPI-A-RF and do not have a counterpart on the MMPI-2-RF. The MMPI-A-RF also contains five Interpersonal scales, three of which (Family Problems, Social Avoidance, and Shyness) are interpretable in terms of both high and low scores. Finally, the Personality Psychopathology-Five (PSY-5) scales are based on the revision undertaken by McNulty and Harkness to accommodate the 241 items of the MMPI-A-RF.

The MMPI-A-RF will be released in 2016. Test materials scheduled for release include the MMPI-A-RF Manual for Administration, Scoring, Interpretation, and Technical Manual (Archer, Handel, Ben-Porath, & Tellegen, 2016) and scoring and automated interpretation systems available through Pearson Assessment. The MMPI-A-RF norms are derived from the normative sample for the MMPI-A, and focus on the assessment of adolescents ages 14 through 18, inclusive. A comprehensive discussion of the MMPI-A-RF, including the development and interpretation of the Validity scales, Higher-Order scales, Restructured Clinical scales, and Specific Problems scales, is provided in Archer (2016).

The research literature on the MMPI-A-RF will undoubtedly show areas of advantage for this instrument (relative to the MMPI-A) in many assessment tasks with adolescents. This research will also identify areas of limitations for the MMPI-A-RF in addressing other types of assessment issues or areas. It is likely that the ultimate evaluation of the MMPI-A-RF will be based on a scale-by-scale or specific groups of scales (e.g., RC scales) analyses of the instrument, rather than broad generalizations concerning the overall utility of the test instrument. The publication of the MMPI-A-RF offers test users a valuable alternative instrument to the MMPI-A, particularly in situations in which the 241-item length of the MMPI-A-RF serves as an important factor in successful test administration.

The reduction in test length provided by the MMPI-A-RF, however, was not the primary objective of the development of this test. The central objective in the development of the MMPI-A-RF was to improve on the discriminate validity achievable by the MMPI-A by reducing the ubiquitous and confounding influence of the demoralization factor commonly found in most personality inventories. Archer (2006) and Friedman et al. (2015), for example, noted that the extensive item overlap that occurs across the MMPI Basic scales (including the MMPI-A Basic scales) is attributable to the criterion-keying method of item selection employed by Hathaway and McKinley (1943) for scale development, the degree of symptom overlap among psychiatric disorders, and the pervasive influence of shared first-factor variance, a factor labeled by Tellegen as Demoralization. While scales heavily influenced by the Demoralization factor might be expected to show strong evidence of convergent validity (i.e., high correlations with

predicted external criteria), such scales typically suffer from relatively poor specificity or discriminate validity (i.e., the ability to discriminate between various forms of psychopathology). The MMPI-A-RF seeks to reduce the redundancy found among MMPI-A scales by isolating the demoralization factor and reducing its influence on the "seed" or "core" components of MMPI-A-RF scales. This process, if successful, should result in shorter scales (in contrast to MMPI-A counterparts) with comparable convergent validity but improved discriminative ability. The MMPI-A-RF Manual (Archer et al., 2016) provides over 17,000 correlations between MMPI-A-RF scale scores and external criteria in a variety of adolescent samples. These data provide an important initial step in evaluating the MMPI-A-RF. Future research will further establish the extent to which the MMPI-A-RF has achieved the important objectives of maintaining convergent validity while demonstrating improvements in discriminant validity.

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